Examination of the Relationship Between High School Students' Problem Solving Skills, Perceived Stress and Life Satisfaction

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This study was conducted to examine the relationships between problem solving skills, perceived stress and life satisfaction. In addition, it was aimed to determine how these variables changed according to demographic characteristics. The sample group of the research consists of a total of 430 high school students determined by the convenient sampling method. The research was designed with the Relational Screening Model. In the research, ' Sociodemographic Information Form', 'Problem Solving Skills Inventory', 'Perceived Stress Scale' and 'Life Satisfaction Scale' were used as data collection tools . Independent Groups t-Test, One-Way Analysis of Variance and Pearson Correlation Analysis were used in the analysis of the data. Findings obtained from the research show that there is a negative correlation between problem solving skills and perceived stress; It shows that there is a positive relationship between problem solving skills and life satisfaction, and a negative and statistically significant relationship between perceived stress and life satisfaction.

Keywords: Problem Solving, Perceived Stress, Life Satisfaction, High School Students

INTRODUCTION

Living a 'happy' life is one of the most important life goals of almost every human being. From the earliest times to the present, every human being has questioned this notion in various ways, such as how to achieve happiness, what meaning happiness has and what it is affected by. Because of this curiosity, the concept of happiness and questions about how happiness can be achieved have constantly been the focus of attention for people and researchers and the issue has remained an important topic which is always current (Çivitçi, 2012). Happiness is a phenomenon which contains the effects of countless variables for every individual. It can be said that all kinds of knowledge, skills and experience that an individual encounters or has in life have a significant effect on his or her individual happiness. From a comprehensive perspective, Ivey et al. (1993) stated that happiness can be individual or relational; it includes both positive and negative situations due to its structure. In life, every individual face various difficulty, problems and obstacles which must be overcome and uses different problem-solving techniques to cope with them all. All people devote a large part of their energy and time for problem solving and decision making (cited by Korkut, 2002:177). In recent decades, happiness has been conceptually investigated in the context of similar concepts such as psychological well-being, subjective well-being, quality of life, life satisfaction and positive emotions (Dost, 2007). Happiness is affected by the stresses which can be encountered frequently in everyday private or business life. Every person has encountered stress or been in a stressful environment at some point because stress is an absolute reality which in inevitable in every person's life. It is an important mechanism in human life and is an integral part of life (Selye, 1956). However, stress, like every other emotion, has a beneficial effect if it is experienced at an appropriate level, and when it is experienced at an excessive level, it can have harmful effects on the individual.

It can be said that problem-solving processes are a skill which an individual will use throughout his/her whole life to achieve happiness and can affect life completely. It is a finding supported by many studies that for every individual with high problem-solving skills, these skills are closely related to many other life skills. From this point of view, solving the problems which people encounter in their life processes will be an important skill that can be used both to increase their level of happiness and to reduce the stress which they experience in this process. In this context, it is thought that conducting studies on the problem-solving skills of individuals will contribute to increasing the satisfaction which people derive from life and reducing the stress which they experience. On the other hand, when the relevant literature was examined, it was seen that there was no study in which these variables were evaluated together. Therefore, determining the relationships between these variables will help fill the gap in the literature

In this study, it was aimed to examine the relationships between high school students' problem-solving skills, perceived stress, and life satisfaction scores, to reveal whether these variables differ according to the socio-demographic data of the participants, and to obtain information

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about the participants' problem-solving skills, stress and life satisfaction levels.

METHOD

In the research, "Relational Screening Model" was designed to evaluate the relationship between high school students' problem-solving skills, perceived stress, and life satisfaction levels. In order to obtain findings that can be generalized for a universe with many elements, research studies conducted by taking the whole or a certain part of the universe are within the scope of general screening models. Studies designed in this type research that aim to reveal a past or present situation without changing it. Relational screening model, one or It is a research model that is used to determine the relationship and the degree of the relationship between more variables (Karasar, 2010).

Study group

The sample group of the research consists of 430 high school students continuing their education in Gebze, Kocaeli. While determining the study group of the research, convenience sampling method, also known as convenience sampling, was used. This sampling method is based on the principle of creating a sample group of the desired size in a short time, in the easiest way and in a short time when considered in terms of time, labor or cost, which can be easily reached during the research process (Büyüköztürk et al., 2016).

Data collecting tools

Sociodemographic Data Form" to obtain information about the sociodemographic characteristics of the study group, "Problem Solving Inventory (PSI)" to determine the problem-solving skills of the participants, and "Perceived Stress Scale (PSI)" to determine the perceived stress levels. ' and the 'Satisfaction with Life Scale (LDS)' was used to determine the levels of life satisfaction.

Research Process

In the first stage, the main subject of the study, the variables to be studied, the scales and the research model were determined, and a study proposal was prepared. After the study proposal was approved, necessary approvals and permissions were obtained for the research. Then, the implementation process of the study started.

After the measurement tools in the research were answered by the study group, the data analysis process was started. After the analysis of the data was completed, the study was completed by turning it into a report.

Analysis of Data

Normality assumption regarding the variables of the study Kolmogrov-Smirnov and Shaphiro Analyzed by Wilk tests. In addition, data on the QQ plot and skewness of the variables were evaluated. Descriptive statistics are given for the scores of the Satisfaction with Life Scale, the Perceived Stress Scale, and the Problem-Solving Inventory.

RESULTS

Table 1 shows the independent groups t-test results regarding the comparison of the LS, PSS and PSI scores according to the gender variable.

Table1 Independent Groups t-Test Results on Comparison of Life Satisfaction Scale, Perceived Stress Scale and Problem Solving Inventory Scores by Gender Variable

Scale	Variables	n	$\bar{x}$	ss	t	df	p
LSS	Female	234	25,15	5,70	1,412	428	,159
	Male	196	24,41	5,08			
PSS	Female	234	31,20	6,60	3,779	428	**,000****
	Male	196	28,83	6,33			
PSI	Female	234	133,83	17,70	-,048	428	,962
	Male	196	133,91	18,08			

Perceived Stress Scale scores differed significantly by gender (t (428) =3.779; p<0.05). It was observed that the Perceived Stress Scale scores of female participants (31.20±6.60) were higher than those of male participants (28.83±6.33). It was determined that the scores of the Satisfaction with Life Scale and the Problem Solving Skills Inventory did not differ significantly according to the gender variable (p > 0.05).

The ANOVA results of the comparison of the LS, PSI and PSI scores according to the grade level variable are given in Table 2.

Table 2. Examination of Scale Scores Used in the Study by Grade Level

Scale	Variables	n	$\bar{x}$	ss	F	df	p
LLS	9 th grade	62	25,52	5,48	1,111	3	,345
	10 th grade	136	24,65	5,66		426	
	11 th grade	145	24,31	5,20			
	12 th grade	87	25,37	5,41			
PSS	9 th grade	62	28,84	7,27	1,660	3	,175
	10 th grade	136	30,55	6,91		426	
	11 th grade	145	29,73	6,23			
	12 th grade	87	30,99	5,99			
PSI	9 th grade	62	129,22	20,14	1,905	3	,128
	10 th grade	136	133,63	18,01		426	
	11 th grade	145	135,47	17,50			
	12 th grade	87	134,87	16,11			

* p<0.05; ** p<0.01

It was determined that the scores of Satisfaction with Life Scale, Perceived Stress Scale and Problem Solving Inventory did not differ significantly according to the grade level variable (p>0.05). The ANOVA results of the comparison of the LS, PSS and PSI scores according to the variable of perceived income status are given in Table 3.

Table 3 : Analysis of Scale Scores Used in the Study According to Perceived Income Status

Scale	Variables	n	$\bar{x}$	ss	F	df	p
LLS	Low	19	23,73	6,82	1,178	2	,309
	Medium	342	24,59	5,25		416	
	High	58	25,60	5,75			
PSS	Low	19	31,37	4,32	2,838	2	,060
	Medium	342	30,44	6,59		416	
	High	58	28,35	6,99			
PSI	Low	19	132,19	21,03	,690	2	,502
	Medium	342	133,22	17,39		416	
	High	58	136,06	19,13			

* p<0.05; ** p<0.01

It was determined that the scores of Satisfaction with Life Scale, Perceived Stress Scale and Problem Solving Inventory did not differ significantly according to the variable of perceived income status (p > 0.05).

CONCLUSION, DISCUSSION AND RECOMMENDATIONS

When the life satisfaction scores were analysed by gender, it was found that the participants' life satisfaction scores did not differ significantly according to the gender variable. It has been observed that there are many studies in the literature which have reported that life satisfaction differs significantly according to gender (Tuzgöl-Dost, 2007; Aydıner, 2011; Kaya et al., 2015; Eryılmaz, 2012; Cenkseven & Akbaş, 2007). However, it has been observed that studies conducted with many different samples have also obtained results that show contrary findings (Gündoğar et al., 2007; Avşaroğlu et al., 2005; Cömert et al., 2016; Hintikka, 2001). The findings obtained from the studies in the field also contradict each other. It can be thought that the fact that these findings are in conflict, that they could not obtain a generally accepted result regarding the differentiation of life satisfaction by gender, and that different findings were obtained in the studies, that the effect of gender might vary according to the demographic characteristics of the sample groups used in the studies, such as personal, social and cultural variables.

When the perceived stress scores were analysed by gender, however, it was found that the stress scores of the participants differed significantly in terms of gender. It was observed that women's perceived stress scores were higher than men's. In the studies in the literature, there are many studies reporting that stress differs in terms of gender. Savcı and Aysan (2014) and Özgan et al. (2008) reported that stress scores differed according to gender. In addition, it is seen that this difference is in favor of female participants. Şanlı (2017), however, determined that stress does not differ according to gender, whereas Bilgel et al. (2007) showed that male students' anxiety and stress levels were lower than those of female students. These findings support the finding of the current study that female students are more prone to stress. Based on these findings, it is seen that the studies in the literature have reported contradictory results, but the majority have suggested that stress differs according to gender. Misra et al. (2000) found that female students experienced more stress than male students because of their greater anger and internal and external pressures. However, even when female students live at a lower level, they might seem more stressed than males (Özgan et al., 2018). In addition, female students show their stress more openly than males. From this point of view, these findings can be interpreted as that women experience more stress than men or that they express their stress more.

When problem-solving skills scores were analysed by gender, it was found that the problem-solving scores of the participants did not differ significantly according to the gender variable. In the literature, however, there are many studies reporting that stress does differ significantly according to gender. Gümüş (2015), Savcı and Aysan (2014) and Alver (2005) all found that university students' problem-solving skills scores differed significantly according to gender. It was also found that this difference was in favor of female participants. Bulut (2007), however, found that problem-solving skills did not differ according to gender. Based on these findings, it can be said that there are conflicting findings in the literature. It can be thought that the contradiction between these findings, the fact that no generally accepted result can be obtained regarding the effect of gender on problem-solving skills, and that different findings have been reported in the previous studies, all show that the effect of gender might vary according to the demographic characteristics of the sample groups used in the research, such as personal, social and cultural variables. When life satisfaction, perceived stress and problem-solving skills were analysed according to grade level, it was found that the participants' life satisfaction, perceived stress and problem-solving skills did not differ significantly according to the grade level variable. In the literature, Savcı and Aysan (2014) stated that problem solving and perceived stress were unaffected by grade (Özyazıcıoğlu et al. 2008; Tezel et al. 2005:d Kanbay et al. 2013); Gençay (2009), on the other hand, found that life satisfaction did not differ according to grade. These findings can be interpreted as that grade level does not cause a significant difference in terms of life satisfaction, perceived stress and problem-solving skills. When life satisfaction, perceived stress and problem-solving skills were analysed according to the mother's working status, it was found that the participants' life satisfaction, perceived stress and problem-solving skills did not differ significantly according to the mother's working status variable. When the studies in the literature were evaluated, no study was found in which all three variables were examined according to maternal employment status. These findings can be interpreted as that maternal employment does not cause a significant difference in terms of life satisfaction, perceived stress and problem-solving skills. When the life satisfaction scores were analysed according to perceived income status, the life satisfaction scores of the participants in the study did not differ according to the perceived income status variable. When the studies in the literature are evaluated, it is seen that these findings reveal contradictory results to those of many previous studies (Paolini et al. 2006; Tuzgöl-Dost, 2006; Gündoğar et al., 2007; Cenkseven & Akbaş, 2007; Kabasakal & Baş, 2013). Economic conditions can be seen as a very important factor in achieving many goals, from meeting the basic needs of individuals to participating in activities which can enable people to improve themselves. It can therefore be thought that economic conditions are related to the happiness of individuals (Tuzgöl-Dost, 2006). In addition, the fact that life satisfaction did not differ according to perceived income can be interpreted as that the material conditions of the individual were not a determining factor for life satisfaction. The contradiction in these findings may be the result of the sample groups used in the researches having different personal, social and cultural characteristics.

When the problem-solving skills scores were analysed according to perceived income status, it was found that the participants' problem-solving skills scores did not differ significantly according to the perceived income status variable. Alver (2005), Tezel et al. (2005), Derin (2006) and Yıldırım et al. (2011) also reported similar findings to those of the current study. Gümüş (2015), on the other hand, showed opposite results. Based on

these findings, it can be said that the studies in the literature give contradictory findings. The findings of this study can be interpreted as that the economic conditions of individuals do not differentiate their problem-solving skills. When the perceived stress scores were analysed according to perceived income status, it was found that the perceived stress scores of the participants did not differ significantly according to the perceived income status variable. When the studies in the literature are evaluated, it is seen that these results are compatible with some previous studies (Özgan et al. 2008; Çakmak & Hevedanlı, 2005) and contradictory to the findings of others (Bilgel et al., 2007). When the findings were examined, although there was no significant difference, it was seen that the students with low incomes had higher stress scores. It was seen that the perceived stress scores decrease as the income level increases. Economic conditions can be seen as an important factor for individuals to lead their lives comfortably. People spend a significant part of their lives working to meet their clothing, shelter and other vital needs. From this point of view, being in good economic circumstances gives an extremely important assurance in terms of meeting the current and future needs of the individual. From a different point of view, this situation could arise because a student thinks that if s/he is not successful, s/he cannot fulfill responsibilities towards the family. In addition, it can be thought that the expectations and demands of individuals with a good economic standard are higher than those with a low economic standard. This excess of expectations and demands can also cause the individual to experience stress. In addition, the fact that individuals with a good income have less need to study and have financial security in regard to earning a living might have caused them to experience less stress. In addition to this point of view, the main factor that causes stress in the classroom environment can be relationships with teachers and friends or with lessons. Regardless of the economic conditions, all students in the same environment during the education process encounter similar events. For this reason, it can be thought that the income situation does not cause any differentiation (Özgan et al., 2008).

According to the results of the research, when the psychological counselors working in schools plan a guidance and psychological counseling program to reduce students' stress and increase their problem-solving skills, it is likely to affect the students' life satisfaction levels. The research was conducted on a sample of high-school students, so in order to generalize the results of the research, further research and broader studies need to be carried out with different samples.

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